of central France, but the cranial type in other respects is not the same.

DISTRIBUTION OF ARCHÆOLOGICAL ARTEFACTS IN AMERICA.

A VALUABLE article by Mr. A. E. Douglass appears in the *Bulletin* of the American Museum of Natural History for October 26th. It explains the arrangement adopted by him for his extensive collection of American aboriginal relics. The aim is "to enable the students to determine with the least labor to what class any object in his possession properly belongs, and, by comparative study, to decide how it was used."

The geographical distribution of the various forms is discussed at length, and presented at the close of the paper in an elaborate table.

Mr. Douglass calls especial attention to the need of a uniform nomenclature for American archæology, and adds, "a point has been reached when this matter could and should be definitely settled," and offers the valuable suggestion that the Anthropological Section of the American Association for the Advancement of Science should appoint a committee for the purpose.

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CURRENT NOTES ON METEOROLOGY.

THE MONTHLY WEATHER REVIEW.

THERE was a time when the *Monthly Weather Review* of our Weather Bureau was anything but an interesting publication, for it contained little besides meteorological summaries and statistics. During the past two years, however, under the editorship of Prof. Cleveland Abbe, to whom meteorology in this country owes so much, the *Review* has taken on more of a popular character, and it now presents every month not only the usual tables and summaries, but a considerable number of longer or shorter papers and notes on different meteorological subjects. These papers come mostly from the professors and observers of the Bureau, although outsiders also contribute. Prof. Abbe himself prepares each month a set of 'Notes by the Editor.' The *Monthly Weather Review*, with the strong backing of the Weather Bureau, is doing successfully a good share of the work which the *American Meteorological Journal* carried on in this country for twelve years and which, as it did not receive sufficient financial support, it was obliged to discontinue last April. The September number of the *Review* presents an unusually large number of interesting articles, and an idea of their scope may be obtained by noting some of their titles and authors, which follow: S. P. Fergusson: 'Kite Experiments at the Blue Hill Meteorological Observatory' and 'A High Kite Ascension at Blue Hill' (an account of the kite work at Blue Hill, already referred to in these notes, which has given a large number of valuable records from the free air at heights up to over 9,000 feet); A. J. Henry: 'Progressive Movement of Thunderstorms;' Julius Baier: 'Low Pressure in the St. Louis Tornado' (the readings of an aneroid give 26.94 in., with an uncertainty of .20 in., as the minimum at the center); Robert H. Scott: 'The International Meteorological Conference at Paris;' Prof. C. Abbe: 'Espy and the Franklin Kite Club,' 'Isobars and their Accuracy," 'The First Attempt to Measure Wind Force' (Sir Isaac Newton, in 1658, determined the force of a gale by jumping in the direction in which the wind was blowing and then in the opposite direction, and measuring the length of the leap in both directions).

CLOUD OBSERVATIONS IN TROPICAL PLANTS.

A RECENT paper by H. B. Boyer, Observer of the Weather Bureau at Key West, Fla., deals with *Atmospheric Circulation in Tropical Cyclones as shown by Movements of Clouds.* The author's main conclusions are as fol-

lows: In tropical cyclones, perfectly formed, the currents of the lower cloud level move in a circle, while from the alto-cumulus to the cirrus level the currents diverge from the center, the divergence increasing up to the cirrus clouds, which move directly from the center. If, when within the direct influence of tropical cyclones, it is found that the lower currents do not conform strictly to cyclonic formation, the high-current angles should be used to locate the bearing of the center, for the upper currents are not influenced by local conditions. When the upper clouds show any marked departure from the regular cyclonic current angles, there is little need of apprehending danger from storm winds, for there is then imperfect formation of the cyclone.

KITE METEOROLOGY AND WEATHER FORECASTS.

That meteorological observations made in the free air by the use of kites seem destined soon to play an important part in the making of weather forecasts has already been suggested in these notes, and is further indicated in a short paper by Hammon in the *Monthly Weather Review* for August. On August 28th two kites were flown in San Francisco during the prevalence of a moderate west wind (14 miles an hour). After an elevation of 1,000 feet was reached, the kites drifted more and more to the northward. On the next day another ascent was made and the southerly current was met at a height of 1,200 feet. On this day a very marked electrification of the air was noted. During the following night and the succeeding day a general rain fell throughout northern California, the heaviest August rain of which there is record in many places. That the unusual southerly current and the electrification of the air were associated with the rain seems evident.

REPORT OF THE CHICAGO METEOROLOGICAL CONGRESS.

Part III. of the 'Report of the International Meteorological Congress held at Chicago, August 21–24, 1893, under the auspices of the Congress Auxiliary of the World's Columbian Expedition,' has just been issued. Parts I. and II. were published some time ago. It is always a matter of regret that such a publication should be so long delayed, as it loses much of its interest on that account. The Chicago Meteorological Congress, although attended by few persons from this country and by still fewer from abroad, was the means of bringing together a large number of valuable papers, written by the leading meteorologists of the world, on all manner of topics connected with meteorology and related sciences. Our Weather Bureau has had in charge the translation and publication of these articles, and they have appeared as Bulletin No. 11, Parts I., II. and III. The present part contains the papers on climatology and on instruments and methods of investigation, prepared for Sections VII. and VIII. of the Congress.

METEOROLOGICAL WORK IN SOUTHWESTERN RUSSIA.

The admirable work done during the ten years (1886–1895) in southwestern Russia, under the direction of Dr. Klossovsky, is set forth in a publication entitled *Travaux du Réseau météorologique du sud-ouest de la Russie. Dix Ans d'Existence, 1886–1895.* The activities of this meteorological service have been varied and the results obtained have been of great value. Apart from the regular observations, extended studies have been made of the climate, agricultural and soil conditions, thunderstorms and hail-storms, distribution of rainfall, etc. Dr. Klossovsky's recent map showing the distribution of thunderstorms over the earth's

surface is the first of the kind ever published.

NOTES.

WORD has been received of the death, on October 25th, of Dr. Alberto Sanchez, director of the Meteorological and Astronomical Observatory of San Salvador.

A PAPER on Climate was read by Dines before Section III. of the Sanitary Institute, at its meeting at Newcastle-on-Tyne last summer, and has been separately published as a reprint from Vol. XVII., Part III., of the Journal of the Sanitary Institute.

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NOTES ON INORGANIC CHEMISTRY.

IN the last number of the *Chemical News*, Prof. Crookes describes an examination of the alleged new element 'Lucium' which was patented by Barrière. The lucium was furnished by M. Barrière, and after both spectroscopic and chemical investigation was found to be impure yttrium. Didymium, erbium and ytterbium were also found to be present, which may account for the atomic weight given for lucium, 104, that of yttrium being 89. Prof. Crookes also worked up a specimen of monazite according to Barrière's patent and found that the 'lucium' obtained was the same impure yttrium.

In the same number of the *Chemical News*, Prof. Fresenius makes a disclaimer of any confirmation of Barrière's discovery of lucium.

THE constitution of the so-called nitrogen-iodid is the title of a paper in the Proceedings of the Chemical Society (London) by F. D. Chattaway. This explosive substance, the exhibition of which is familiar to every student of elementary chemistry, has had several different formulæ assigned to it, but its composition has never been satisfactorily settled, in spite of the numerous chemists who have studied it. The author concludes that it is not a mixture, and that its formula is either NHI_2 or NH_3I_2, most probably the latter, which would make it an additive and not a substitution product. This suggestion appears never to have been put forward before, and accounts well for many of the reactions of the substance.

S. HAGA in the same Proceedings considers how mercurous and mercuric salts change into each other. In general mercuric salts are changed into the mercurous when in contact with mercury and water. Mercurous salts in solution or moist when exposed to strong daylight are dissociated even at ordinary temperature into mercury and mercuric salts. In boiling water the change takes place more readily, the mercury distilling with the steam. Only at a higher temperature than boiling water are mercurous salts oxidized to mercuric, at lower temperatures the change being a dissociation. This would seem to offer an explanation of the darkening which sometimes takes place in calomel. Exposed to sunlight when slightly moist it would dissociate into mercury (occasioning the darkening) and corrosive sublimate. Old calomel is sometimes considered to be dangerously active. The physiological action of calomel would also seem to be due, not to an oxidation to the bichlorid, but to a slow solubility of the calomel in the fluids of the stomach and intestine. J. L. H.

PSYCHOLOGICAL NOTES.

THE January number of the *American Journal of Psychology* will contain a characteristic and very interesting article by President G. Stanley Hall entitled 'A Study of Fear.' President Hall sent out from Clark University thirty-two questionnaires relating to the child's mind and its development, and has secured in answer to these an enormous mass of material. He has worked over the data of one of the syllabi only, that concerned with fear, and though